

AMENDMENTS TO THE SPECIFICATION

IN THE TITLE OF THE INVENTION:

Please replace the Title with the following new Title:

APPARATUS AND METHOD FOR RADIATION DETECTION WITH RADIATION
BEAM IMPINGING ON PHOTOCATHODE LAYER AT A GRAZING INCIDENCE

Please replace the paragraph on page 5, lines 26, to page 6, line 12 with the following amended paragraph:

Further, photocathode arrangement 17, 18 may comprise a protective layer 19 on the photocathode layer surface ~~(not shown in Fig. 1)~~, which preferably is a 0.01-1 μm thick layer of e.g. CsI. Photocathodes are generally sensitive to small impurities in any gas in contact with it, which impurities cause degradation of the quantum efficiency of the photocathode with time. Thus, the protective layer 19 shall protect the photocathode layer is from direct contact with gases within chamber 13, 53, of apparatus 9, but shall be transparent to the incident radiation as well as to the electrons released from the photocathode layer surface. Further, the protective layer 19 shall advantageously be opaque to light since there may occur fluorescence in chamber 13, 53 and this fluorescence light has to be prevented from reaching the photocathode layer and thus from striking out more electrons, which

would affect the detection in an unwanted manner. If the protective layer 19 is not opaque to light it can be covered by a thin metallic layer, which is opaque to light and transparent to incident radiation and electrons.